

**TO:** Stephanie Vaughn                      **CC:** Rob Law, Bill Potter, John Rolfe (*de maximis*)  
**FROM:** Stan Kaczmarek                      Gary Foster, George Hicks (CH2M Hill)  
**DATE:** August 26, 2013                      Todd King (GLDD)  
**RE:** EPA and NJDEP concerns on sediment and water release from environmental dredge buckets

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Thank you for bringing to the CPG's attention the concerns that EPA and NJDEP have raised concerning the release of sediment and water from partially closed environmental dredge buckets.

Environmental dredge buckets are designed to close and seal tightly but debris can prevent that. In the RM 10.9 Removal Area, the near-shore sediment contains a significant amount of rocks (cobbles to boulders), concrete fragments and wood debris including branches, tree limbs, portions of wood pilings and logs. The quantity of such material near shore in the RM 10.9 Removal Area is what led to the number of cuts with partially closed buckets that EPA and NJDEP observed being dredged on Wednesday, August 21.

When an environmental bucket is prevented from fully closing and sealing by such debris, water and dilute sediment are released through the gap that is created. When this occurs, the best management practice (BMP) is to move this material in a rapidly controlled manner into the scow in order to minimize loss of that sediment and to minimize its redistribution as residual over the Removal Area.

The CPG and its contractors understand that EPA and NJDEP were concerned about this practice and especially about the potential for re-suspension and re-deposition of residual material as a small portion of the water and sediment appeared to have run down the side of the scow outside of the silt curtain.

In discussing this with GLDD and CH2M-Hill and performing a closer inspection of how the scow and silt curtain are arranged, GLDD and CH2M-Hill have determined that:

- Partially-closed environmental buckets are a typical and normal occurrence during environmental dredging projects when larger-sized debris is prevalent.
- GLDD and CH2M Hill are using the accepted dredging BMP which is to move a partially closed bucket in a controlled manner as rapidly as possible into the scow to minimize loss of sediment.
- Gaps between the silt curtain and the scow are minimal (see attached photo). GLDD and CH2M-Hill will continue to monitor gaps between the silt curtain and scow and ensure that they are minimized to the extent possible.
- Ongoing surface water quality monitoring did not detect any measureable increase in turbidity when this was observed on Wednesday.

We also understand that EPA and NJDEP expressed concern about what appeared to be an excessive amount of water in each dredge bucket cut. GLDD was doing cleanup passes in the near-shore area during the time of EPA and NJDEP's Wednesday visit. In cleanup work, the bucket is only partially filled with sediment as it is designed to remove only the number of inches required to reach the design elevation cut. The rest of the bucket may then be filled with water depending on the depth of overlying river at the time of the cut.

Please let us know if this addresses your concerns and if EPA or NJDEP have any other questions or concerns that can be addressed by the CPG and its contractors.

